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GOVERNMENT OF INDIA
MINISTRY OF TOURISM & CIVIL AVIATION
(COMMISSION OF RAILWAY SAFETY)

RAILWAY ACCIDENT INVESTIGATION REPORT

ON

ACCIDENT

TO

12NB BANDEL-NAIHATI LOCAL

AT

NAIHATI JUNCTION STATION

OF

EASTERN RAILWAY

ON

14TH SEPTEMBER, 1964

1971
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SUMMARY

1. Date	14th September 1964.
2. Time	10-29 hours.
3. Railway	Eastern.
4. Gauge	5′—6″,
5. Location	Naihati Junction.
6. Nature of accident	Train striking an obstruction.
7. Train involved	12 NB “Bandel-Naihati Local”.
8. Consisting of	6 bogie coaches.
9. Engine No.	BTC 26854 (Bunker foremost).
10. Estimated speed	25 M.P.H.
11. Type and Standard of Interlocking	Standard III.
12. Number of tracks	Double Track section.
13. Gradient	1 in 303 (Descending).
14. Curvature	Compound—1·1/8° at the spot.
15. Weather	Clear.
16. Visibility	Good.
17. Casualties	6 injured (3 grievous).
18. Cause	12 NB Local striking an infringing signal ladder which had been damaged by the open door of the preceding train, Diesel 280 Down.
19. Parties held responsible	(1) Guard of Diesel 280 Down. (2) Permanent Way Inspector Naihati.

To

The Secretary to the Government of India,
Ministry of Civil Aviation,
New Delhi.

Sir,

In accordance with Rule 9 of the Railway Board's Notification No. 1926-T dated the 19th March 1930, I have the honour to report the result of my Inquiry into the accident to 12 NB "Bandel-Naihati Local" that occurred while it was entering Naihati Junction on the Northern Suburban Section of the Sealdah Division of the Eastern Railway on the morning of the 14th September 1964.

2. *Inspection and Inquiry*—I inspected the site of the accident on the morning of the 15th September in company with the Divisional Superintendent, Sealdah, and other Divisional Officers, and commenced the Inquiry the same day. The Inquiry was continued at Naihati on the 16th and 17th September.

Three of the injured passengers were visited in Chuchura Hospital on the morning of the 16th September.

The evidence of 35 witnesses was recorded at which Shri S. N. Mathur. Divisional Superintendent Sealdah was present together with other Divisional Officers.

The District Magistrate and the Police were informed of the Inquiry, and they were represented by Shri B. Bhattacharjee, Sub-Divisional Police Officer, Barrackpore on the 15th September, and Shri N. Bose, Inspector Railway Police on the 15th and 16th September.

[The terms 'right' and 'left', 'front' and 'rear' have been used in this report with reference to the direction of travel of 12 NB Down Local.]

I. PREAMBLE

3. *Description of the accident*—12 NB Down Local left Garifa at 10·25 hours and arrived at Naihati at 10·32 hours. On arrival at Naihati it was found that the first two coaches of the train had their right side panels slightly damaged, and some passengers had been injured as a result of the train striking an obstruction between Garifa and Naihati.

Further investigation revealed that the ladder of the Branch Up Advanced Starter Colour Light signal was distorted inwards towards the Down Bandel-Naihati track, causing an infringement of standard fixed dimensions. It was obvious that 12 NB Local had struck this infringing signal ladder resulting in slight damage to the right side panels of the first two coaches of the train and injuries to some of the passengers within.

4. *Casualties*—I regret to report that as a result of this accident six persons were injured, of whom three sustained grievous injuries.

5. *Composition of 12 NB Down Local*—12 NB Down Local consisted of six bogie coaches hauled by a BTC class locomotive. The train was marshalled in the following order:—

Engine No. BTC 26854 (Bunker foremost).

First Coach 5147 TLR	Third Class with Luggage and Brakevan.
Second Coach 4191 GT	Third Class.
Third Coach 03062 GT	Third Class.
Fourth Coach 1480 YFTY	First and Third Class with Ladies Compartment.
Fifth Coach 3083 YGT	Third Class.
Sixth Coach 4949 TLR	Third Class with Luggage and Brakevan.

NOTES:—The first and second coaches were 10′—8″ wide, the remainder being 10′—0″ in width.

The train was fully vacuum braked, and its length and weight were approximately 477 ft. and 350 tons respectively.

M/P(D)191Mof T&CA—(2a)

6. *Damage sustained*—

(*i*) *12 NB Down Local*—Only the first two coaches next to the engine sustained slight damage as detailed below—

Coach No. 5147 TLR—At a height of 6′—10½″ above rail level there was a scratch mark 11′—2″ long;

At a height of 7′—10″ above rail level there was a scratch mark 5′—10″ long;

At a height of 7′—10″ from rail level there was another scratch mark 13′—4″ long with two small pieces of the panel twisted at the window pillars;

At the luggage compartment there was a slight scratch mark 4′ long 7′—10″ above rail level.

There were also blood marks on one of the window sills.

Coach No. 4191 GT—There was a scratch mark 30′ in length at a height of 7′-10″ from rail level—the 30′ length was inclusive of the window gaps. A portion of this had a part of the panel torn.

The whole rake, however, was fit to run.

(*ii*) *The Branch Up Advanced Starter Clour Light Signal* was not damaged in any way, but its ladder was uprooted from its base and bent and distorted inwards towards the Down Branch line at a height of 7′—6″ above rail level.

(*iii*) *The approximate cost of damage* was estimated as follows—

	Rs.
(*a*) Passenger Coaches	10
(*b*) Branch Up Advanced Starter Colour Light Signal	90
Total	100

7. *Number of Passengers*—The seating capacity of 12 NB Down Local was 422, and there were approximately 225 passengers travelling in the train at the time.

8. *Weather conditions*—The accident occurred in broad daylight and the weather and visibility were good at the time.

II. RELIEF MEASURES

9. *First Aid and Medical Assistance*—The train arrived at Naihati at 10·32 hours when the accident came to light. First Aid was immediately rendered at the Station to the injured. Two of the grievously injured passengers were taken at once by the Government Railway Police across the Hooghly river to the Chuchura Civil Hospital where they were admitted. The Railway Assistant Medical Officer arrived at the station at about 10·45 hours, and took the remaining four injured passengers to the Naihati Health Unit where initial medical treatment was rendered. Later, these four injured passengers were also taken by the Government Railway Police to the Chuchura Civil Hospital.

10. *Restoration of Normal Working*—The infringing signal ladder was removed at 12·45 hours the same day, after which normal working was resumed.

III. LOCAL CONDITIONS

11. *Description of the site*—Naihati is a junction station on the Northern Suburban Section of the Sealdah Division of the Eastern Railway. It is provided with Multiple Aspect Colour Light signalling.

The Bandel-Naihati Branch is a 9 Km. Double Line section (except over the Jubilee Bridge across the Hooghly river where there is Single Line working with a track-circuited gauntleted track) worked on the Absolute Block system with Double Line Block Instruments. There are two stations on this Branch, viz, Hooghly Ghat (a Block station) and Garifa (a Flag station).

Naihati is approached from Bandel by a right-handed curve. The Branch Up Advanced Starter Colour Light Signal is located on the inside of the Down Branch line and between the Up and Down Branch line tracks. The bottom edge of this signal was $7'$—$1\frac{7}{16}''$ from the centre of the Down Branch line track. The track centres were $15'$—$3\frac{3}{8}''$, and the Down Main line track had a super-elevation of $1\frac{3}{4}''$.

The kilometerage, reckoned from Bandel, of the various stations mentioned in this report is given below:

Bandel	0
Hooghly Ghat	5
Garifa	6
Naihati	9

12. *Permissible speed*—The maximum permissible speed on the section is 25 m.p.h. No permanent or temporary restriction was in force at the time between Garifa and Naihati.

IV Summary of Evidence

13. *Gateman Shri R. Rajbhar* said that he did not see or hear any thing unusual although the Branch Up Advanced Starter Colour Light signal was clearly visible from the Level Crossing.

14. *Keyman Shri Sukhdeb* said that he left Naihati on foot along the Down line towards Bandel at about 6·30 hours, and returned along the Up line at about 9·30 hours. He was positive that the Branch Up Advanced Starter signal ladder was in a normal condition when he was returning to Naihati.

15. *North Cabin Assistant Station Master Shri A. Mitra* said that he had been on duty from 7·00 hours that day. When 12 NB passed his Cabin he neither heard nor saw anything unusual. He did not see any train passing prior to 12 NB with open doors.

The trains that passed his Cabin from and to Bandel immediately prior to the accident were as detailed below:—

Up Trains	
43 Up	9·55 hours.
9 NB	10·20 hours.
Down Trains	
Diesel 280 Dn	10·18 hours.
12 NB	10·30 hours.

Note:—From the Cabin the right sides of 280 Down & 12 NB could be seen.

16. *Pointsman in the North Cabin Shri Saja Kurmi* said that he saw Diesel 280 Down passing the Cabin but did not notice any open doors on the train.

Note:—From the Cabin the right sides of 280 Down & 12 NB Could be seen.

17. *Levermen in the North Cabin Shri N. Dutta and Shri H. N. Das* said that they saw Diesel 280 Down passing the Cabin and there were no open doors on the train. They also saw nothing unusual when 12 NB passed by.

Note:—From the Cabin the right side of 280 Down & 12 NB could be seen.

18. *Driver of 43 Up Shri P. N. Chakraborty* said that he was quite positive that the Branch Up Advanced Starter signal was normal when his train passed it.

19. *Driver of Diesel 280 Down Shri Ranjit Singh* said that his train arrived at Bandel at 9·20 hours and left at 9·38 hours. His only stop between Bandel and Naihati was at the Hooghly Ghat Home signal (9·58—10·03 hours).

Approaching Naihati station he clearly saw the Branch Up Advanced Starter signal and there was no obstruction. He was on the right side of the engine (No. WDM. 2-18128) at the time with the engine leading.

His train arrived at Naihati at 10·18 hours.

20. *Assistant Driver of Diesel 280 Down Shri S. R. Roy* said that when passing the Branch Up Advanced Starter Signal he saw that it was normal and there was no obstruction or any visible damage to it. None of the wagon doors on the train was open.

21. *Guard of Diesel 280 Down Shri N. C. Das* said that the train arrived at Bandel at 9·20 hours and left at 9·38 hours. Between Bandel and Naihati the train was only stopped at the Hooghly Ghat Home signal (9·58—10·03 hours). He did not look at the Branch Up Advanced Starter signal at Naihati, but heard, felt, and saw nothing unusual between Garifa and Naihati.

All the wagon doors of the train were secured in the closed position and he had checked this at Burdwan. Again, on arrival at Naihati Down Yard, he checked the train and found none of the wagon doors on the right side open; he did not check the train on its arrival at Naihati Platform Yard.

22. *Driver of 9 NB Shri S. K. Chatterjee* said that his train left Naihati at 10·16 hours and crossed 12 NB at Garifa.

He did not particularly notice the Branch Up Advanced Starter signal while passing it, except that the green aspect was displayed, and the signal post and its ladder appeared normal i.e. there was nothing unusual about it to which his attention was drawn.

While working trains to and from Bandel that morning the prickers were not used on the run but only at Bandel.

23. *First Fireman of 9 NB Shri N. L. Bhadra* said that he did not particularly notice the signal post or the ladder of the Branch Up Advanced Starter signal except that it displayed the green aspect.

He did not use the pricker at all on the run but only at Bandel; since the Bandel-Naihati run is a short one, normally the pricker is only used when at the water-column.

24. *Guard of 9 NB Shri N. G. Chakraborty* said that his train left Naihati at 10·16 hours and crossed 12 NB at the Hooghly Ghat Up Outer signal.

When leaving Naihati he noted that the Branch Up Advanced Starter signal was displaying the green aspect but did not particularly note the signal post or its ladder.

There was nothing unusual on the trip between Naihati and Bandel.

25. *Driver of 12 NB Shri Kashinath (II)* said that he came on duty at Bandel at 5·00 hours that day and first worked 4 NB ex. Bandel to Naihati with engine No. BTC 26854. The same engine and rake were used for working 3 NB on the return from Naihati to Bandel, 8 NB back to Naihati, again 7 NB back to Bandel, and finally 12 NB which left Bandel at 10·10 hours.

Working 12 NB the first stop was at Hooghly Ghat (10·21 hours), and the next stop was at Garifa (10·25 hours). His engine was travelling bunker-foremost at the time, and he was standing on the left side of the engine and the First Fireman was on the right side and was not firing at the time. The train was received direct into Naihati at 10·32 hours, and it was only then that he heard about the accident when there was a noise from the passengers travelling in the carriage behind the engine.

When approaching Naihati he did not notice anything wrong with the Branch Up Advanced Starter signal.

Prior to this, when working the other Locals between Bandel and Naihati, he had noticed nothing wrong with the Branch Up Advanced Starter signal.

The prickers on the engine were in the normal position, and he was definite that at no time did a pricker project outside the engine and foul the Branch Up Advanced Starter signal; in fact, the prickers had not been used since he came on duty at Bandel that morning.

The brakepower of his engine was adequate.

26. *First Fireman of 12 NB Shri T. K. Burman* said that he had been working with Driver Shri Kashinath that morning with the same engine and rake. After leaving Garifa he had been standing on the right side of the engine and looking out for the Home Signal and the Level Crossing. He first came to know about the accident when 12 NB came to a stop at Naihati platform, and he had no idea as to how the accident took place.

The prickers were on the bracket of the engine at the time and he had not used them at all after leaving Bandel.

He was quite sure that there was nothing on the engine which could have distorted the signal ladder when passing the Branch Up Advanced Starter signal. Further, he did not see any obstruction, and the ladder was not bent when the engine of 12 NB passed this signal.

The brakepower of the train was adequate.

It was bright and sunny at the time.

He did not look back along the train when 12 NB was approaching the Home singal of Naihati.

27. *Second Fireman of 12 NB Shri R. K. Banerjee* said that he had also been working on the same engine and rake with Driver Shri Kashinath since the morning.

At no time did he see anything abnormal while working between Bandel and Naihati, and the first he heard about the accident was when 12 NB arrived at Naihati platform.

The two prickers were on the bracket provided for the purpose, and the First Fireman did not use the prickers at all after leaving Bandel with 12 NB.

28. *Guard of 12 NB Shri P. K. Banerjee* said that he also had been working with the same engine and rake between Bandel and Naihati that morning. The brakepower of the train was adequate.

12 NB left Bandel at 10·10 hours and Garifa at 10·25 hours. He was travelling in the 6th coach (TLR 4949) at the time, and did not see, hear, or feel anything unusual. On arrival at Naihati he was informed about the accident by some passengers, and this was the first time that he heard about it.

Even on the other trips he had seen, heard, and felt nothing unusual.

29. *Senior Rakshak (R.P.F.) Shri S. C. Day* said that when Diesel 280 Down came to a stop in Naihati Station Yard, he found the doors of three wagons open on the right side, and the open doors were not secured in the open position. The three wagons with open doors were loaded with coal, and one of them was about the fourth or the fifth from the engine.

It was a common occurrence for trains to come into Naihati with open doors.

30. *Rakshak (RPF) Shri Gangadin Murai* said that when Diesel 280 Down arrived in the Old Down Yard Naihati he found three wagons with open doors on the right side, and these open doors were not secured in the open position. He did not particularly notice whether any wagons had their panels scratched or damaged.

31. *Senior Train Examiner Shri S. C. Bhattacharjee* said that he checked Diesel 280 Down at about 11·40 hours, and found the following three wagons with their doors open on the right side:—

63846 NR (Covered)—5th from the engine.
25299 CR (Covered)—55th from the engine.
36563 NR (Covered)—60th from the engine.

In each case both the doors were open but were secured by their hooks in the open position.

He saw no marks or damage on any of the wagons.

Generally trains do not come into Naihati yard with wagon doors open and not secured.

32. *Carriage Fitter Shri Suren Ghosh* said that he checked Diesel 280 Down within about 20 minutes of its arrival in Naihati yard. He found three wagons with their doors open on the right side but the open doors were secured in the open position. Although he specifically looked for marks of damage he found none.

33. *Wheel-Gauger Shri Sukhram* said that he checked Diesel 280 Down when it arrived in the Old Down Yard Naihati and found three wagons loaded with coal with their doors open on the right side but the doors were secured in the open position. He, however, found no damage although he had been specially instructed to look for the same.

Generally trains do not come into Naihati with wagon doors open and not secured in the open position

34. *Train Examiner Shri B. G. Malik* said that under instructions from the Station Superintendent he carefully examined Diesel 280 Down. He found no signs of damage, but three wagons had their doors secured by hooks in the open position.

35. *Relieving Transportation Assistant Shri M.K. Dhar* said that he was told by the Yard Master to check Diesel 280 Down. He checked the train at about 11·30 hours and found no damage, but the following three wagons had their doors on the right side secured in the open position:—

63846 NR
25299 CR
36563 NR

Later, at about 12·15 or 12·20 hours, he checked wagon No. 51063 which was loaded with billets and found that the billets were not disturbed in any way.

36. *Permanent Way Inspector Shri S. K. Bakshi* said that curve alignment pillars were put in by the Railway Electrification during the period December 1963—February 1964 between the Up and Down Bandel-Naihati lines. Slewing of the Up line was done in April—May, 1964, and slewing of the Down line was taken up on the 24th August 1964 and completed on the 8th September. The slewing was done by keeping the track centres 15′—4″, the curve alignment pillars being centrally located between the Up and Down lines. The Down line was slewed inwards towards the Branch Up Advanced Starter signal by about 1′—3″ as indicated on the Plan No.RE/Cons/GR. 9A/90-63; this plan was taken from the office of the Railway Electrification after the accident. After the slewing of the Down line the distance from the centre of the Down line to the nearest edge of the ladder of the Branch Up Advanced Starter signal was 7′—2″. The superelevation was 1¾ inches, which reduced the "Lean due to superelevation" to 3 inches. The realignment was for the running of EMU stock. When he checked the curvature it was only 7/8 degree.

When he went to the site of the accident at about 11·15 hours he found the bottom of the signal ladder uprooted from its cemented brick base and bent towards the Down line. The collars securing the ladder to the signal post, however, were intact, and so were the bolts and nuts securing the ladder to the signal post. The obstruction was at a height of 7′—6″ above rail level and 5′—3″ from the centre of the Down Branch line.

On return to the station he examined the engine of 12 NB and found one of the prickers *bent*; the Driver told him that this was normal.

Since the Driver of 12 NB did not see any obstruction when approaching the Branch Up Advanced Starter signal he was of the opinion that something on the engine of 12 NB had struck the singal ladder and bent it inwards towards the track.

37. *Assistant Engineer (II) Kanchrapara Shri S. P. Ghosh* said that he had not seen the Railway Electrification plan brought by the Permanent Way Inspector Shri Bakshi, but the latter had told him that the slewing of the Down Line was to be done to 7′—8″ from the central curve alignment pillars. He had not checked the clearance from the Down line to the Branch Up Advanced Starter signal.

Since taking over charge of the sub-division on the 23rd June 1964, he had only trollied over this section on the 26th June and the 30th July.

V. OBSERVATIONS AND TESTS

38. *Track details and clearance*—The Down track was examined at the site of the accident on morning of the 15th September and the following details were recorded —

(*a*) Versine of a 62″ chord	1·1/8″
(*b*) Superelevation	1·¾″
(*c*) Gauge	1/8″ slack

(*d*) Edge of the base of the Branch Up Advanced Starter signal post to nearest gauge face of Down Branch line track	4′-4·3/8″
(*e*) Track Centres	15′-3·3/8″
(*f*) Diameter of the base of the Branch Up Advanced Startersignal post ..	7·3/4″
(*g*) Diameter of the top portion of the Branch Up Advanced Starter signal post	5¾″ and
(*h*) Width of the ladder of the Branch Up Advanced Starter signal	8½″

39. *Damage to the rake of 12 NB Local*—The engine and the rake which met with the accident were examined on the morning of the 15th September. The damage sustained was as detailed in para 6 above and it was obvious that this damage had been caused by some obstruction between 6′-10½″ and 7′-10″ above rail level.

40. *Visibility Tests*—The damaged signal ladder was re-erected at the site in order to simulate conditions obtaining immediately prior to the approach of 12 NB Local. The same engine (No. BTC 26854) was then taken out, and, approaching Naihati on the Down track with the bunker foremost, it was seen that :—

(*a*) The Branch Up Advanced Starter signal was first visible from a distance 1,015 ft.;

(*b*) The Branch Up Advanced Starter signal could be seen clear of the O.H.E. masts erected alongside from a distace of 737 ft.;

(*c*) The obstructing signal ladder was clearly visible both from the left as well as the right side of the engine from a distance of 237 ft.

The opportunity was also taken of travelling on a WDM-2 Diesel engine approaching Naihati from Bandel. The visibility ahead was very clear, and considerably better than from the BTC engine No. 26854.

41. *Load of Diesel 280 Down*—The wagons on this load were examined on the afternoon of the 15th September but there was no visible damage.

42. *Covered wagon measurements*—Three different types of covered wagons were selected at random in Naihati yard and their dimensions recorded. The results were as follows :—

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	Type A1	Type A2	Type C.R.
Overall width	9′-5″	9′-4″	9′-9″
Half Overall width	4′-8½″	4′-8″	4′-10½″
Width of Door	2′-3¾″	2′-3½″	2′-2″
Projection of Latch of Tower bolt outside Door ..	0′-3¾″	0′-3½″	0′-4″
Projection of Latch from centre of Track ..	7′-4″	7′-3″	7′-4½″

The projecting latch varied from 7′-1½″ to 7′-3¾″ in height above rail level.

43. *Damaged Signal ladder*—This ladder, when erected to simulate conditions obtaining just prior to the accident, was found to be bent inwards towards the Down Line at a height of about 7′-6″ above rail level and 5′-3″ from the centre of the track. It was quite obvious that something protruding from a train passing on the Down Branch line had caught the leg of the ladder nearest to the Down Branch line at a height of approximately 7′-6″ above rail level, and, wrenching the ladder from its base, bent it inwards towards the Down Branch line track.

VI. DISCUSSION

44. Time of the accident to 12 NB Local—12 NB Local arrived at Naihati at 10·32 hours and passed the North Cabin at 10·30 hour. The accident must have occurred about a minute before passing the North Cabin, or say at 10·29 hours.

45. *Cause of damage to the Branch Up Advanced Starter signal*—The driver of Diesel 280 Down was quite positive that when he was passing the Branch Up Advanced Starter signal there was no obstruction protruding from it, and this was confirmed by his Assistant Driver. The view ahead from a Diesel engine is very clear, and the Driver being on the right side, would definitely have seen such an obstruction if the signal ladder had been damaged prior to the approach of the Diesel engine hauling Diesel 280 Down. I am, therefore, satisfied that the signal ladder was not damaged prior to the approach of Diesel 280 Down.

As mentioned in para 43 above the damage to the signal ladder was obviously caused by some obstruction which struck the signal ladder at a height of approximately 7′-6″ above rail level. There was nothing on the Diesel engine hauling Diesel 280 Down which could possibly have done this damage, and if by chance something had been protruding from this engine, the Driver would obviously have been aware of this and stopped his train. Again, if anything on the engine of 12 NB Local (the train which followed Diesel 280 Down) had struck the signal ladder both the Driver and the first Fireman would have been aware of the same and their instinctive reaction would have been to stop the train. It was , therefore, obvious that the damage was caused by something protruding from the load of Diesel 280 Down; something at a height of approximately 7′-6″ above rail level and which would have engaged with the signal ladder and wrenched it free from its base.

The only thing that could have done this was the projecting latch of the tower bolt of the door of a covered wagon. The tower bolt latch is approximately 7′-2″ above rail level and in the open position projects about 7-3½″ from the centre of the track when stationary. Allowing for 3″ lateral displacement when on the run, and a further 2¾″ on account of the inward lean due to superelevation and the curvature effect, it is apparent that the latch of a tower bolt could have projected about 7′-9″ from the centre of the Down line when passing the Branch Up Advanced Starter signal, and, as will be seen from para 49 when the ladder of this signal was only 7′-1·1/16″ from the centre of the Down line at the time.

The Guard of Diesel 280 Down said that he did not look at the Branch Up Advanced Starter signal when passing it. He also said that he had checked the train at Burdwan prior to its arrival at Naihati and satisfied himself that all wagon doors were then secured in the closed position on both sides, and again on arrival at Naihati he found that all the wagon doors were closed. The Pointsman and the two Levermen in the North Cabin said that when Diesel 280 Down passed by, they did not notice any open doors. The Train-Examining staff who checked Diesel 280 Down on its arrival in the Old Down Yard said that 3 covered wagons had their doors open on the right side though these open doors were secured in the open position. As against this the two Rakshaks of the R.P.F. stated that when diesel 280 Down arrived at both Naihati Platform Yard as well as Naihati Old Down Yard, there were 3 covered wagons which had their right side doors, open, and these doors were not secured in the open position. Bearing in mind, therefore, that the damage to the signal ladder could only have been caused by the open latch of an open door, I can only conclude that one of these open doors on the right side on Diesel 280 Down caused the damage; the latch of the tower bolt must have been protruding at the time, and, hooking into the signal ladder, wrenched it from its base, and distorted it inwards towards the Down line.

46. *Responsibility of the Guard of Diesel 280 Down*—Circular No. MC/150/Pt. II dated the 20th May 1964 from the Chief Operating Superintendent clearly lays down that the Guard of a train must ensure that all wagon doors are secured in the closed position. This has again been stressed in Asansol Divisional Circular No. TGB/41/60 Pt. I dated the 3rd September 1964. The two circulars referred to are reproduced in Annexure I attached. This Guard who was headquartered on the Asansol Division, said that he checked his train at Burdwan, but did not do so at Bandel although the train stopped at Bandel for 15 minutes. This Guard on his own admission said that he checked his train at Burdwan but did not do so at Bandel although the train stopped at Bandel for 15 minutes. His evidence to the effect that none of the doors on his train was open when the train reached Naihati cannot be accepted in the face of the evidence of others which was to the effect that three wagons had their doors open on the right side.

From the previous paragraph it will be seen that it can only be concluded that the signal ladder was damaged by an open door of his train. In the face of the two circulars referred to above, and in particular the Asansol Division Circular, he is responsible for having failed to ensure that all the wagon doors of his train were secured in the closed position. However, it is understood that running train thefts on this section are not uncommon, and the possibility of the wagon doors on the train having been opened by miscreants shortly before the train approached Naihati cannot be ruled out.

47. *Clearance from the centre of a track to a fixed structure*—Vide item 8 of Chapter I of the Schedule of Dimensions for the 5′-6″ gauge (1963 edition) the minimum horizontal distance from the centre of a track to any structure except a platform from 1′ 0″ above rail level to 14′-6″ above rail level should be 7′-0″. To this has to be added the extra clearance required on curves. Again, vide item 30 of Chapter IV(A) of the same Schedule, the maximum width over open doors including all projections for Goods vehicles is 14′-0″. These two standard dimensions are inter-related, the 7′-0″ clearance from the centre of the track being based on the maximum width over open doors including all projections for Goods vehicles.

It will be seen that the edge of an open door of a Goods vehicle including all projections should not project more than 7′-0″ from the centre of the track when stationary. A lateral dispalcement upto about 3″ however, can be expected when on the run, and, therefore, the Schedule presumably does not cater for a fixed structure erected at 7′-0″ from the centre of the track on the straight not being fouled by the open door of a wagon in motion. Again, although the Schedule definitely provides for the maximum width over open doors including all projections for Goods vehicles being 14′-0″, in actual fact it is seen that the latch of the tower bolt which secures the open door of a covered wagon projects a further 3½″ approximately, and so the maximum width over open doors including the projecting latches is really about 14′-7″ and not 14′-0″ as prescribed in the Schedule. There is no doubt that this is an infringement of the Schedule, and it is not understood how this has arisen. This may be looked into by the Railway Board.

With wagons as now constructed the projection of the tip of the latch of the tower bolt from the centre of the track is about 7′-3½″ when stationary. Allowing for 3″ lateral displacement on the run, the projection will be as much as 7′-6½″ from the centre of the track on the straight, and it is quite obvious that structures erected at 7′-0″ from the centre of the track on the straight can and will continue to be fouled by such projections.

48. *Location of the Branch Up Advanced Starter Colour Light signal in between the Up and Down tracks*—Three aspect colour light signals were provided at Naihati in 1962-63 the work being completed in June 1963. At the time the Branch Up Advanced Starter signal was erected between the Up and Down tracks for better visibility, and since the track centers were then in excess of 16′-0″, and the clearance of this signal from the Down line was in excess of 8′-0″, it did not constitute an infringement.

49. *Slewing of the Down line at the site*—Subsequent to the erection of the Branch up Advanced Starter signal in between the Up and Down tracks in June 1963, it was decided to realign the curved approach to Naihati from Bandel. This realignment had to be completed before the erection of the O.H.E. on this Branch by the Railway Electrification Project. At a meeting convened by the Chief Engineer on the 16th August 1963 it was decided that the realignment of this curve would be completed by the end of October 1963, and that since the curve extended into the jurisdictions of both the Howrah and Sealdah Divisions, the entire work on the curve should be done by the Howrah Division. The Howrah Division accordingly surveyed this curve on the 23rd August 1963, and issued the requisite slew chart in May 1964. The Howrah Division also provided curve alignment pillars in between the Up and Down lines. The realignment provided for the prior removal of the Branch Up Advanced Starter signal since the Down track was to be slewed inwards at this point by as much as 1′-3″. The realignment also provided for the track centres being reduced to 15′-4″.

For some reason, however, the Howrah Division only slewed the portion of the curve within their own jurisdiction, and, further, did not officialy send the slew chart to the Sealdah Division. Meanwhile, in view of the inordinate delay in completing the slewing of this curve, the Railway Electrification were repeatedly urging the Sealdah Division and the Permanent Way Inspector Naihati to expedite the slewing so that the erection of the O.H.E. could be proceeded with.

It was under these circumstances that the Permanent Way Inspector Naihati took up the slewing of the portion of this curve which was in the jurisdiction of the Sealdah Division. In the absence of a slew chart he seems to have ascertained that the Up and Down lines were to be slewed with reference to the central curve alignment pillars and that the track centres should be kept at 15′-4″. He accordingly slewed the Up line in April-May 1964 and the Down line between the 24th August and the 8th September 1964. As a result of the slewing of the Down line (which was completed on the 8th September) the clearance from the centre of the Down track to the edge of the Branch Up Advanced Starter signal was reduced by 1′-3′ to 7′-1·1/16″.

50. *Responsibility of the Permanent Way Inspector, Naihati*—A Permanent Way Inspector is responsible for the condition of the Permanent Way under his charge vide General Rule 197, and he is also responsible for obtaining a copy of the Schedule of Standard Dimensions for the time being in force under the orders of the Railway Board vide General Rule 201 and Para 201 of the Indian Railways Way and Works Manual. Further, a Permanent Way Inspector is required to refer any work involving infringement of standard dimensions to his Assistant Engineer for instructions vide Para 612 A of the Indian Railways Way and Works Manual. The rules referred to are reproduced in Annexure I attached.

The circumstances under which this Permanent Way Inspector slewed the Up and Down tracks has been explained in the preceding paragraph. The centre line curve alignment pillars had already been erected by the Howrah Division and he had been told that the track centres were to be kept at 15'-4", though he had not been given the slew chart, in the "Remarks" column of which there appeared the following :—

"Signal between tracks to be eliminated. All infringements to be removed before slewing."

In the first place this Permanent Way Inspector should not have taken in hand the slewing of this curve without receipt of an authorised slew chart, since this is the practice on the Eastern Railway. Further the inward slewing of the Down track by as much as 1'-3" resulted in the Branch Up Advanced Starter signal infringing the Down line—the distance of the edge of the signal ladder was then reduced to only 7'-1·1/16" from the centre of the Down track as against a minimum of 7'-5¼" as required in view of the curvature (1·1/8), and superelevation (1¾") at the spot.

The Permanent Way Inspector's action in slewing the Down line without the slew chart and without first ensuring that the Branch Up Advanced Starter signal was shifted, therefore, resulted in the ladder of this signal being struck by the extended latch of the tower bolt of a covered wagon which distorted the signal ladder and brought about the accident to 12 NB Local, and for this he is responsible. However, it cannot be said with any degree of certainty that this signal ladder would not have been struck and distorted by the latch of the tower bolt of a covered wagon if the Permanent Way Inspector had ensured that the clearance of the signal ladder was kept at not less than 7'-5¼" from the centre of the Down line track (which would have been permissible for the curvature and superelevation obtaining at the spot), since, vide Para 45 above, it is seen that under a certain combination of circumstances the latch could have projected about 7'-9" inwards at this spot.

51. *Responsibility of the Assistant Engineer (II) Kanchrapara*—This Assistant Engineer only took over charge of the Subdivision on the 23rd June 1964, and trollied over this section on the 26th June and the 30th July. Slewing of the Up track had been completed before he took over charge and the slewing of the Down track was taken in hand on the 24th August and completed on the 8th September. He did not trolly over the section while slewing of the Down track was in progress, nor after the slewing had been completed and was apparently content with what the Permanent Way Inspector Naihati told him, viz., the slewing of the Down line was to be done to 7'-8" from the central curve alignment pillars.

Para 103 of the Indian Railways Way and Works Manual lays down that an Assistant Engineer should cover his Subdivision by trolly once a month and that the inspection should be intensive. This para is reproduced in Annexure I. This particular Subdivision only extends from Dum Dum Junction to Naihati Junction and from Naihati Junction to near Garifa. Its route length is only about 25 miles nd I find no reason why this Assistant Engineer could not have trollied over this section between the 30th July and the 14th September (when the accident took place), particularly since the Down track on this curve was slewed during this period. Even though he cannot be held responsible for the slewing of the Down track and the infringement resulting thereform, his failure to exercise the necessary supervision over the maintenance of the track is highly reprehensible, and is brought to the attention of the Railway Administration.

52. *Speed of 12 NB Local at the time of the accident*— The maximum permissible speed on the section is 25 m.p.h. and there was no permanent or temporary restriction in force at the time between Garifa and Naihati. There is nothing on record that the train was proceeding at a higher speed than usual, and it is, therefore, accepted that the speed at the time must have been approximately 25 m.p.h.

53. *Responsibility of the Driver of 12 NB Local*—Vide General Rule 122 (which is reproduced in Annexure I attached) the Driver should have been keeping a good look out at the time. However, the background

is such that it is doubtful whether the distorted signal ladder could have been clearly seen from a distance of more than 237 ft. Calculations reveal that the stopping distance of 12 NB Local at a speed of 25 m.p.h. would have been approximately 383 ft., and, therefore, the Driver may be given the benefit of the doubt in the matter of not stopping his train short of the obstruction and thereby averting the accident.

54. *Responsibility of the First Fireman of 12 NB Local*—The First Fireman is also required to keep a good look out while the train is in motion when not necessarily otherwise engaged vide General Rule 122. At the time he was not firing since the train was approaching its terminus Naihati, and, therefore, he should have been on the look out since he was not otherwise engaged. However, as stated in Para 5 above, it is doubtful whether the obstructing signal ladder could have been seen from a distance of more than 237 ft., and the train could not have been stopped within this distance.

55. *Responsibility of the Railway Administration*—The only coaches on 12 NB Local that were affected were 10′-8″ wide. On investigation it was seen that no sanction had been accorded for the running of 10′-8″ wide stock on the Bandel-Naihati Branch line; sanction had been applied for in July 1963, but, although the Additional Commissioner of Railway Safety, Eastern Circle had asked for an Officer to be sent to clarify certain details, the matter had not been pursued by the Railway Administration. After the accident occurred, and when it came to light that the Railway Administration were unauthorisedly running 10′-8″ wide stock on this Branch line, they obtained the necessary sanction from the Additional Commissioner of Railway Safety, Eastern Circle on the 26th October 1964.

The action of the Railway Administration in running 10′-8″ wide stock without sanction is, to say the very least, a serious matter for which there is no excuse. Further, since only the 10′-8″ wide stock on 12 NB Local were affected, the Railway Administration may prima facie be considered as being directly responsible for this accident. However, the infringements—on account of which sanction for the running of 10′-8″ wide stock was not accorded years ago—were removed some time back, and at the time of the accident, excluding the infringing Branch Up Advanced Starter signal for which the railoay Administration cannot be held responsible, no infringements existed which barred the running of this stock on this Branch line.

As far as this accident was concerned, therefore, I do not hold the Railway Administration responsible although there is no doubt that they were guilty of a grave technical irregularity in not obtaining sanction prior to running 10′-8″ widestock on this Branch line.

VII. CONCLUSIONS

56. *Cause of the accident*—From the evidence available I have come to the conclusion that the ladder of the Branch Up Advanced Starter Colour Light signal at Naihati was struck and distorted inwards towards the Down line by the protruding latch of the tower bolt of an open door of a covered wagon of the load of Diesel 280 Down.

I have also come to the conclusion that the first two coaches of 12 NB Local, which followed Diesel 280 Down 12 minutes later, struck against the infringing signal ladder of this Branch Up Advanced starter Colour Light signal, resulting in slight damage to the coaches in question and injuries to some passengers.

57. *Responsibility for the acciddnt*—(*a*)The Guard of Diesel 280 Down Shri N.C. Das was directly responsible for the damage sustained by the ladder of the Branch Up Advanced Starter signal in that he failed to ensure that all the doors of the wagons of his train were secured in the closed position. He thereby violated the Asansol Divisional Circular No. TGB/41/60 Pt. I dated the 3rd September 1964. His responsibility should be viewed in the light of the possibility of the wagon doors having been opened by miscreants shortly before the train approached Naihati.

Shri N. C. Das, who is nearing 29 years of age, was originally appointed as a Probationary Guard (Grade 'C') in January 1958, and, after 2 weeks training in the Traffic Training School Sealdah, underwent practical training for 7 weeks on the Asansol Division before taking over independent charge as a Guard (Grade 'C'). He was last medically examined in March 1964 and declared fit for service in Class A2. He has had no punishments since his appointment.

(*b*) The Permanent Way Inspector Naihati Shri S. K. Bakshi was also responsible in that he slewed the Down line without receipt of an authorised slew chart and without first ensuring that the Branch Up Advanced Starter Colour Light signal was shifted. As a result, after the slewing, this signal infringed the Down line. He thereby violated General Rule 197 and Para 612 of the Indian Railways Way and Works Manual. However, it cannot be said with any degree of certainty that the ladder of this infringing Branch Up Advanced Starter signal would not have been struck and distorted by the latch of the tower bolt of the open door of a covered wagon if he had ensured that the clearance of the signal from the centre of the Down line was kept at the distance prescribed by the Schedule of Dimensions for the curvature and superelevation obtaining at the spot.

Shri S. K. Bakshi, who is 41 years of age, was originally appointed as an Apprentice Permanent Way Inspector in April 1945. He has been working as a Permanent Way Inspector continuously from July 1955, and has been Permanent Way Inspector Naihati since July 1961. He has been twice censured since January 1955.

58. *Relief Measures*—These were prompt and satisfactory.

Yours faithfully,

(Sd.) H. S. HART.

Additional Commissioner of Railway Safety,
Construction Circle.

CALCUTTA,
Dated the 12th November, 1964.

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ANNEXURE I

The Chief Operating Superintendent's Circular No. MC/150/Pt. II dated the 20th May 1964 addressed to all the Divisional Superintendents.

SUBJECT—*Closing of doors.*

There have been cases where open wagon doors on running trains have damaged the masts on the electrified sections. It is, therefore, imperative that no train with open doors is allowed to originate from any yard.

Train examining staff should have instructions to withhold issue of fit memo until the time all doors have been properly closed or secured.

The Guards should also have instructions to satisfy themselves that all doors have been closed before trains start from the yard, and that they will be held responsible if there is any open door wagon on their trains.

Suitable instructions may please be issued laying down clearly the responsibility of closing of doors in different yards and copy of instructions issued sent to this office.

Asansol Divisional Circular No. TGB/41/60 Pt. I dated the 3rd September 1964.

To

All Yms. Sms. ASMs.—Incharge/Block Huts—

Asansol Division.

CHC. SS. *ROSTER CLERK*. CF. ASN. *ROSTER CLERK*. CF.UDL. HTXR. STN. MDP

GRD. TXR Incharge. DSEY. HSME. DOOP. BRR.

C/—TI(M). Hd. Qrs. ASN. MDP. UDL.

DTI. TI(M)/Safety. PTI/Safety. CWI/Safety. CF(Line). ASN. DOS(G). HWH. DNR. DHN

DOS. SDAH. DOS(T). DME(C&W). AME(C&W). ASN.

RE : *Closing of Wagon Doors.*

It has been ordered by the Chief Optg. Supdt. and Chief Mechanical Engineer that the issue of fit certificate of trains should be withheld by the Train Examining staff till such time all the doors of wagons on the out going trains have been properly closed or secured.

Guards working Goods trains must personally satisfy that all wagon doors have been properly closed or secured on their trains before starting the same from the originating yards. Guards will be held directly responsible if open door wagons are found passing on any running trains and deterrent action will be taken against them.

Responsibility for proper closing or securing of all wagon doors on the trains at the originating yards will rest on the traffic staff viz. Empty Checking Porters/Shuntmen. If for any mechanical defect doors of some wagons cannot be properly closed or secured the T. X. R. on duty will be advised by the traffic staff for closing of such doors and it will be responsibility of the T. X. R. staft to see that those doors are properly closed or secured prior to issue of fit certificates.

The A. Y. M. on duty must advise the Empty Checking Porters/Shuntman to close all wagon doors immediately when OPT/10 is issued to the T. X. R. for examination so that the Empty Checking Porter/Shunman can advise the A. Y. M. within 60 mts. regarding the condition of the wagon doors on the outgoing train and when necessary A. Y. M. would be in a position to advise T. X.R's staff for closing the defective wagon doors and those must be closed by the T. X. R. staff within the examination time of that load.

General Rule 122—

Driver and Fireman to keep a good look-out—Every Driver shall keep a good look-out while the train is in motion, and every Fireman shall also do so when he is not necessarily otherwise engaged.

General Rule 197—

Condition of Permanent Way and Works—Each Inspector of Way or Works shall be responsible for the condition of the Permanent Way and Works under his charge.

General Rule 201—

Supply of documents to Inspector of Way or Works—Each Inspector of Way or Works shall be supplied with and be responsible for obtaining—

(*a*) a copy of the Working Time Table for the time being in force with all correction slips and appendices thereto (if any), and

(*b*) a copy of the Schedule of Standard Dimensions for the time being in force under the orders of the Railway Board.

Para 103 of the Indian Railways Way and Works Manual:—

Inspection of the permanent way—(*a*) The Assistant Engineer should cover his sub-division—

(*i*) by trolly once a month (as much inspection as possible being done by push-trolly), and

(*ii*) by foot-plate of engines of fast trains whenever possible.

(*b*) The inspection by trolly should be intensive, gang work checked, musters checked and initialled and gang charts/diary books examined with reference to the prescribed schedule of track maintenance.

Para 201 of the Indian Railways Way and Works Manual—

Knowledge of rules and regulations—(*a*) Every Permanent Way Inspector and Assistant Permanent Way Inspector shall have in his possession an up-to-date copy of the General and Subsidiary Rules, the Way and Works Manual, Schedule of Dimensions and the current Working Time Table.

(*b*) He shall be well acquainted with the rules, regulations and procedures concerning his work and duties as contained in—

(*i*) The General and Subsidiary Rules (Subsidiary Rules applicable to individual railways) and amendments thereto ;

(*ii*) The Way and Works Manual and amendments thereto; and

(*iii*) Orders and circulars issued by the higher authorities from time to time; and efficiently act upon them.

He shall ensure that all staff under him are well-acquainted with the relevant rules and working methods and efficiently perform their duties.

Para 612 of the Indian Railways Way and Works Manual—

Standard dimensions—A. Infringements—The Permanent Way Inspector, Works and Bridge Inspector should refer any work involving infrignment of standard dimensions to the Assistant Engineer for instructions.

Infringements such as—

(*i*) "Slacks" in platform lines causing the platform heights to exceed dimensions.

(*ii*) errors in alignment causing the minimum distances to adjacent structures being infringed, e.g., platform coping, water columns, overbridges.

(*iii*) excessive lifting of the track, causing the minimum heights to overhead structures to be infringed, e.g., underside of over-bridges, should be removed immediately they occur.

* * * * * *

Recommendation made by the Commission of Railway Safety in connection with Accident to 12 NB Down Bandel Naihati local while approachidg Naihati Station Eastern Railway on 14th September, 1964.

1. The Branch Up Advanced Starter Colour Light signal should be shifted from between the Up and Down lines early. As an interim measure the Down track has been slewed outwards so that the signal does not infringe the Down line.

2. The design of wagons should be straightaway altered to comply with the provisions of Item 30 of Chapter IV (A) of the Schedule of Dimensions. Further, it is desirable that the locking arrangements be altered so that nothing projects—as the latch of the tower bolt does at present—which could engage with a fixed structure such as a signal post, O.H.E. mast, member of a through girder bridge etc. alongside the track.

3. The minimum horizontal distance from the centre of the track to any structure except a platform from 1'—0" above rail level to 14'—6" above rail level (vide item 8 of Chapter I of the Schedule of Dimensions) should be increased to 7'—9" to provide sufficient clearance from open doors of wagons when in motion.

4. Bearing in mind that the present wagons with infringing dimensions will continue to run for years to come, and also that fixed structures cannot be straightaway shifted out to a minimum of 7'—9" from the centres of adjacent tracks, it is necessary that steps be taken to ensure that as far as possible the projecting latches of tower bolts of wagon doors do not engage with open framed structures alongside the track, which would result in distortion of the same as happened in the accident under review. It is, therefore, recommended that every open framed structure erected alongside the track at a distance of less than 7'—9" from the same (plus the requisite curve allowance) should be blanked off with a 1/8" M. S. sheet between 6'—9" and 7'—9" from rail level. By so doing the latch of the tower bolt of the open door of a wagon may strike the surface of the M.S. plate (which should also preferably have its edges rounded off) but not engage with the same, thereby minimising the chance of distorting the said fixed structure alongside the track.

5. The Railway Administration should ensure that the restriction on the use of 10'—8" wide stock on various sections should be duly notified in the Working Time Tables to prevent their unauthorised use on sections over which sanction has not been obtained.

6. It is desirable that the jurisdictions of Permanent Way Inspectors terminate on straight streches. Where for some reason this is not possible the ends of the jurisdictions should have proper curve alignment pillars. Any realignment of a continuous curve extending into the jurisdiction of more than one Permanent Way Inspector should also be entrusted to one Permanent Way Inspector who should be responsible for slewing of the entire curve.

7. The ARCS, Eastern Circle, Calcutta, being aware of certain infringements by the electric masts and signal posts on the Eastern Railway, had asked that Railway under his letter No. 3026/P.5 of 15-10-63, to check the above structures to ensure that there were no infringements. As a result the infringements, found to be 21 in number on checking, were removed. When this job of verification was undertaken, it was not known that the open doors with their latches had already formed an infringement in the manufacture of the wagons, and therefore the Railway was satisfied with a clearance of 7 ft. with usual clearnce for curves as laid down under item 8, Chapter I of Schedule of Dimensions for B. G. Now that the above infringement of wagons has come to light, a review of the distance of the structures from the central line should be undertaken, where in the effect of lurch, estimated to be about 7½", should also be considered.

8. The Indian Railways Schedule of Dimensions, 5'—6" Gauge, 1939, may be called as the Bible of dimensions for the Railwaymen so far as the safety is concerned. If these dimensions are wrongly read or are not rigidly adhered to, then serious accidents may occur, a few of which were seen in the past, but fortunately the one under reference is a comparatively light one. On a perusal of the present edition of the above schedule, various lapses were noticed and some of them are enumerated below :—

(*a*) Apparently this publication is the outcome of the provision under Section 47 of the Indian Railways Act, 1890 (IX of 1890), but no reference to this effect is found in this book and without such mention the statutory effect may be lacking.

(*b*) The various circulars such as No. 60/WDG/ZD/55 on the front page and on Erratum No. 1 of the present Schedule remain undated.

(*c*) The proof-reading, printing and publication of the present issue have been done with some indifference with the result that as many as 66 corrections had to be incorporated in Erratum No. 1 alongwith the publication of the book. A further perusal of the book reveals still quite a large number of spelling mistakes, incomplete prints, etc.

(*d*) As a time-honoured custom, this particular book was divided to contain three distinct sections to deal with the schedules; Schedule 1 containing the prescribed dimensions which are essential for safe working, printed on white paper; Schedule II containing the recommended dimensions, which are considered good practice for future constructions, printed in pink pages; and Schedule III dealing with the existing infringements of Schedule I which may be permitted to continue on existing BG Railways, printed in green pages.

The colour scheme was specially adopted so that it would be easy and convenient for the field engineers and officials to lay hands on the particular type of Schedule and the item number. It is noticed that under the green pages, a number of materials have been added unconnected with condonation of infringing dimensions, which needs rectification. The extra clearances between the structure and the adjacent track appear under green pages, as if they aply only to condonation of infringed dimensions which impression is incorrect.

Any mistakes on account of printing or irregular arrangements, etc., may bring about an unhappy, if not a dangerous, condition. It is, therefore, recommended that besides attending to the above irregularities, proof-reading, editing and printing of the whole book on Schedule of Dimensions should receive careful attention of the Railway Board while bringing out its next edition.

Railway Board have remarked as under on the above noted Recommendations:—

Recommendation No. 1—This has been complied with by the Railway Administration.

Recommendations No. 2, 3 and 7—The majority of the covered wagons on line at present are such that judged strictly by the letter of the provisions under item 30 of Chapter IV(A) of the Schedule of dimensions, there would be an infringement. The removal of the infringement would involve modifications of practically all such wagons. The quantum of work and financial expenditure involved would preclude the proposals from being given effect to. It may, however, be pointed out that according to extent rules, wagons with doors in the open unfastened condition are not expected to run. There also exist on Indian Railways sanctioned infrigements of track centres where the only safety lies in keeping wagon doors closed or secured in open position before permitting movement even in the cases of wagons free from infringement. In view of this, the infringement involved is only theoretical if rules to keep the doors properly fastened while the wagons are on the run are strictly followed.

The Railways are being directed to tighten up arrangements in yards to ensure that wagons with open unfastened doors are not moved or kept in position adjacent to the running lines.

In view of the instructions already in force as to fastening of wagon doors in daily operation, it is proposed to amplify the existing exemption clause under the aforesaid item 30 so as to include swing doors on covered wagons.

The question of re-designing the locking arrangement for doors of covered wagons, so as to reduce the infringement that now occurs with the projection of the hasp of the tower bolt, is being referred to R.D.S.O. for examination.

In view of the position set out above, it does not appear necessary to increase the minimum horizontal clearance from the centre of the track to 7′—9″ as suggested in Recommendation No. 3.

Recommendation No. 4—Necessary instructions on the subject have already been issued to the Railways vide circular letter No. 65/WDO/SD/5 dated 15-6- 65, endorsing a copy to C.R.S.

Recommendations No. 5 & 6—These are accepted. Necessary instructions in this regard are being issued to the Railways.

Recommendation No. 8—The observations made in this recommendation have been taken note of for appropriate action in this office.

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